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FORM PTO-1390 (REV 10-94) U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE

TRANSMITTAL LETTER TO THE UNITED STATES DESIGNATED/ELECTED OFFICE (DO/EO/US) CONCERNING A FILING UNDER 35 U.S.C. 371

DOCKET #: 3397-84PUS

			U.S. APPLICATION NO. (If known, see 37 CFR 1.5) 09/445004
INTERNATIONAL APPLICATION NO. PCT/FI99/00281		INTERNATIONAL FILING DATE 01 April 1999	PRIORITY DATE CLAIMED 01 April 1998

TITLE OF INVENTION

Method of and Arrangement for Threading of a Wrapper Web into a Nip Between Drawing Rolls in Wrapping Device

APPLICANT(S) FOR DO/EO/US

Risto FORSSTROM; Eero MIELONEN

Applicant herewith submits to the United States Designated/Elected Office (DO/EO/US) the following items and other information:

1. [x] This is a **FIRST** submission of items concerning a filing under 35 U.S.C. 371.
2. [] This is a **SECOND** or **SUBSEQUENT** submission of items concerning a filing under 35 U.S.C. 371
3. [x] This express request to begin national examination procedures (35 U.S.C. 371(f)) at any time rather than delay examination until the expiration of the applicable time limit set in 35 U.S.C. 371(b) and PCT Articles 22 and 39(1).
4. [] A proper Demand for International Preliminary Examination was made by the 19th month from the earliest claimed priority date.
5. [] A copy of the International Application as filed (35 U.S.C. 371(c)(2))
   a. [x] is transmitted herewith (required only if not transmitted by the International Bureau).
   b. [] has been transmitted by the International Bureau.
   c. [] is not required, as the application was filed in the United States Receiving Office (RO/US)
6. [] A translation of the International Application into English (35 U.S.C. 371(c)(2)).
7. [x] Amendments to the claims of the International Application under PCT Article 19 (35 U.S.C. 371(c)(3))
   a. [] are transmitted herewith (required only if not transmitted by the International Bureau).
   b. [] have been transmitted by the International Bureau.
   c. [] have not been made; however, the time limit for making such amendments has NOT expired.
   d. [x] have not been made and will not be made.
8. [] A translation of the amendments to the claims under PCT Article 19 (35 U.S.C. 371(c)(3)).
9. [x] An unexecuted oath or declaration of the inventor(s) (35 U.S.C. 371(c)(4)).
10. [] A translation of the annexes to the International Preliminary Examination Report under PCT Article 36 (35 U.S.C. 371(c)(5)).

Items 11. to 16. Below concern other document(s) or information included:

11. [x] An Information Disclosure Statement under 37 CFR 1.97 and 1.98.
12. [] An assignment document for recording. A separate cover sheet in compliance with 37 CFR 3.28 and 3.31 is included.
13. [x] A **FIRST** preliminary amendment.
    [] A **SECOND** or **SUBSEQUENT** preliminary amendment.
14. [] A substitute specification.
15. [] A change of power of attorney and/or address letter.
[x] Other items or information *(specify):* PCT Publication attaching International Search Report, PCT Request,

U.S. APPLICATION NO. (If known, see 37 C.F.R. 1.5)	INTERNATIONAL APPLICATION NO.	ATTORNEY'S DOCKET NUMBER
09/445004	PCT/FI99/00281	3397-84PUS

17.[x] The following fees are submitted:

Basic National Fee (37 CFR 1.492(a)(1)-(5)): Search Report has been prepared by the EPO or JPO ..... **$840.00** International preliminary examination fee paid to USPTO (37 CFR 1.482)..... **$670.00** No international preliminary examination fee paid to USPTO (37 CFR 1.482) but international search fee paid to USPTO (37 CFR 1.445(a)(2)) ..... **$760.00** Neither international preliminary examination fee (37 CFR 1.482) nor international search fee (37 CFR 1.445(a)(2)) paid to USPTO ..... **$970.00** International preliminary examination fee paid to USPTO (37 CFR 1.482) and all claims satisfied provisions of PCT Article 33(2)-(4) **$96.00**		
ENTER APPROPRIATE BASIC FEE AMOUNT =		$ 840.00
Surcharge of **$130.00** for furnishing the oath or declaration later than [] 20 [] 30 months from the earliest claimed priority date (37 CFR 1.492(e)).		$

Claims	Number Filed	Number Extra	Rate	
Total Claims	6- 20 =	0	x **$18.00**	$
[] Independent Claims	2- 3 =	0	x **$78.00**	$
Multiple dependent claim(s) (if applicable)			+ **$260.00**	$
TOTAL OF ABOVE CALCULATIONS =				$ 840.00
Reduction of ½ for filing by small entity, if applicable. Verified Small Entity statement must also be filed. (Note 37 CFR 1.9, 1.27, 1.28).				$
SUBTOTAL =				$ 840.00
Processing fee of **$130.00** for furnishing the English translation later than [] 20 [] 30 months from the earliest claimed priority date (37 CFR 1.492(f)). +				$
TOTAL NATIONAL FEE =				$ 840.00
Fee for recording the enclosed assignment (37 CFR 1.21(h)). The assignment must be accompanied by the appropriate cover sheet (37 CFR 3.28, 3.31). **$40.00** per property+				$
TOTAL FEES ENCLOSED				$840.00
Amount to be refunded:				**$0**
charged:				**$0**

a. [x] One check in the amount of $840.00 to cover the above fees is/are enclosed.
b. [] Please charge my Deposit Account No. 03-2412 in the amount of $____ to cover the above fees. A duplicate copy of this sheet is enclosed.
c. [x] The Commissioner is hereby authorized to charge any additional fees which may be required, or credit any overpayment to Deposit Account No. 03-2412. A duplicate copy of this sheet is enclosed.

NOTE: Where an appropriate time limit under 37 CFR 1.494 or 1.495 has not been met, a petition to revive (37 CFR 1.137(a) or (b)) must be filed and granted to restore the application to pending status.

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Attorney Docket # 3397-84PUS

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re National Phase PCT Application of

Risto FORSSTROM et al.

International Appln. No.: PCT/FI99/00281

International Filing Date: April 01, 1999

For: Method of and Arrangement for Threading of a Wrapper Web into a Nip Between Drawing Rolls in Wrapping Device

PRELIMINARY AMENDMENT

Assistant Commissioner for Patents
Washington, D.C. 20231
BOX PCT

S I R:

Prior to examination of the above-identified application amend the application as follows:

IN THE TITLE:

Change "arrangement" to --apparatus--.

IN THE SPECIFICATION:

Page 1, preceding line 2, insert the following title:

--**FIELD OF THE INVENTION**--.

Page 1, line 5, delete "as defined in the preamble of claim 1" and insert --and apparatus--.

Page 1, delete line 9 in its entirety.

Page 1, line 10, insert the following title:

--**BACKGROUND OF THE INVENTION**--.

Page 1, line 23, delete "isn't" and insert --is not--.

Page 1, line 29, insert the following title:

--**SUMMARY OF THE INVENTION**--.

Page 1, line 30, after "method" insert --and apparatus"; after "threading" delete "the" and insert --a--.

Page 1, line 31, after "reliably" delete --with a wrapping device--.

Page 1, line 33, delete "The invention is based on that a"; and insert --A--.

Page 2, line 1, delete "indicated" and insert --detected--.

Page 2 lines 6-10 delete.

Page 2, line 15, delete "doesn't" and insert --does not--.

Page 2, line 19, delete "Thanks" and insert --Due--.

Page 2, after line 25, insert the following beginning as a new paragraph:

--Other objects and features of the present invention will become apparent from the following detailed description considered in conjunction with the accompanying drawings. It is to be understood, however, that the drawings are intended solely for purposes of illustration and not as a definition of the limits of the invention, for which reference should be made to the appended claims.

BRIEF DESCRIPTION OF THE DRAWINGS

In the drawings, wherein like reference numerals delineate similar elements throughout the several views:--.

Page 2, delete lines 27 and 28.

Page 2, line 31 delete "." and insert --;--.

Page 2, line 32 delete "." and insert --; and--.

Page 3, line 3, insert the following title:

--**DETAILED DESCRIPTION OF THE PRESENTLY PREFERRED EMBODIMENTS**--.

Page 3, line 4, delete "members" and insert --devices--.

Page 3, line 7, delete "referentially" and insert --schematically--.

Page 3, line 15 after "table" insert --1--.

Page 3, line 19 change "motor -driven" to --motor-driven--.

Page 4, line 13, after "rolls" insert --11, 15--.

Page 4, line 17, after "table" insert --1--.

Page 4, line 23, delete "centre" and insert --center--.

Page 4, line 24, delete "centre" and insert --center--.

Page 4, line 26, after "arms" insert --9--.

Page 5, line 4, delete "centre" and insert --center--.

Page 5, line 5, delete "centre" and insert --center--.

Page 5, line 6, delete "centre" and insert --center--.

Page 5, line 8, delete "centre" (both occurrences) and insert --center-- (both occurrences).

Page 5, line 9, delete "centre" and insert --center--; delete "can't" and insert --cannot--.

Page 5, line 14, delete "centre" and insert --center--.

Page 5, line 17, delete "centre" and insert --center--.

Page 5, line 24, delete "aroud" and insert --around--.

Page 5, line 25, delete "in".

Page 6, line 5, delete "agaist" and insert --against--.

Page 6, line 6, delete "round" and insert --around--.

Page 6, line 24, change "doesn't" to --does not--.

Page 6, after line 30, insert the following beginning as a new paragraph:

--Thus, while there have been shown and described and pointed out fundamental novel features of the present invention as applied to a preferred embodiment thereof, it will be understood that various omissions and substitutions and changes in the form and details of the devices illustrated, and in their operation, may be made by those skilled in the art without departing from the spirit of the present invention. For example, it is expressly intended that all combinations of those

elements and/or method steps which perform substantially the same function in substantially the same way to achieve the same results are within the scope of the invention. Substitutions of elements from one described embodiment to another are also fully intended and contemplated. It is also to be understood that the drawings are not necessarily drawn to scale but that they are merely conceptual in nature. It is the intention, therefore, to be limited only as indicated by the scope of the claims appended hereto.--.

IN THE ABSTRACT:

Line 1, delete "(57)".

Line 2, change "arrangement" to --apparatus--.

Last line, delete "Fig. 2".

IN THE CLAIMS:

Cancel claims 1 to 5, without prejudice.

Add the following claims:

6. A method for threading a wrapper end from a wrapper roll to a nip between wrapper proportioning drawing rolls in a wrapping station for wrapping paper rolls, board rolls and pulp rolls, comprising:

rotating a wrapper roll in a use position against a wrapper feeding direction such that a wrapper end falls on a surface of a wrapper feeding table;

detecting when the wrapper end has fallen on the surface of the wrapper feeding table;

stopping rotation of the wrapper roll when falling of the wrapper end on the surface of the wrapper feeding table has been detected; and

rotating the wrapper roll in the wrapper feeding direction until the wrapper end passes an indicator positioned after the wrapper proportioning drawing rolls.

7. The method of claim 6, further comprising blowing air along the surface of the wrapper feeding table so as to guide the wrapper end along the surface of the wrapper feeding table.

8. The method of claim 7, wherein air is blown along the surface of the wrapper feeding table before falling of the wrapper end on the surface of the wrapper feeding table has been detected.

9. An apparatus for threading a wrapper end from a wrapper roll in a wrapping station for wrapping paper rolls, board rolls and pulp rolls, comprising:

a wrapper feeding table;

a means for rotating the wrapper roll in a wrapper feeding direction and in a direction opposite to the wrapper feeding direction;

at least one first sensor positioned to detect when the wrapper end has fallen on a surface of said wrapper feeding table;

a means for feeding the wrapper end from said wrapper feeding table toward a roll to be wrapped;

a frame having a use position in which the wrapper roll may be placed so that wrapper from the wrapper roll can be fed from the use position to said means for feeding the wrapper end;

at least one air nozzle positioned to blow air along the surface of said wrapper feeding table so as to guide the wrapper end along the surface of said wrapper feeding table toward said means for feeding the wrapper end; and

at least one second sensor positioned to detect when the wrapper end has passed said wrapper feeding means.

10. The apparatus of claim 9, wherein said at least one air nozzle is positioned in said wrapper feeding table.

11. The apparatus of claim 9, wherein said at least one air nozzle comprises a plurality of air nozzles.

REMARKS

This preliminary amendment is presented to place the application in proper form for examination and to eliminate multiple dependency from the present claims. No new matter has been added. Early examination and favorable consideration of the above-identified application is earnestly solicited.

Any additional fees or charges required at this time in connection with the application may be charged to our Patent and Trademark Office Deposit Account No. 03-2412.

Respectfully submitted,

COHEN, PONTANI, LIEBERMAN & PAVANE

By: _____

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30 November 1999

Method of and arrangement for threading of a wrapper web into a nip between drawing rolls in a wrapping device

The invention concerns a method as defined in the preamble of claim 1 for threading the end of a wrapper web from a wrapper roll into a nip between wrapper proportioning drawing rolls.

Further, the invention concerns an arrangement for applying the method.

Getting a modern wrapping machine and roll wrapping device ready for operation usually requires the input of at least two operators. Using older equipment, getting it ready for operation and changing the wrapper rolls can be even harder. One of the most time-consuming and care-requiring tasks is the threading of the wrapper web from a new roll brought to the wrapping device into the nip between the wrapper proportioning drawing rolls. The wrapper has to remain straight during the feeding and the nip between the drawing rolls has to be closed in such way that both edges of the wrapper are of the same length between the roll and the drawing roll nip. In this way a uniform transverse tension of the wrapper is achieved. Since the positions of the wrapper roll and the drawing roll are invariable with respect to each other, a wrapper that has been positioned askew cannot straighten out in the drawing roll nip, except by wrinkling before the drawing roll nip, and the wrinkle goes through the nip. Further, if the transverse tension of the wrapper isn't uniform, the tension of the wrapper that is to be wrapped around a roll will become nonuniform and the wrapping quality will suffer, because a loose wrapper layer will not support the roll sufficiently. A uniform wrapper tension is of particular significance to the quality of the wrapping in the so-called multiple wrapping, where several parallel rounds of wrapper are wrapped around a roll.

The object of the present invention is to provide a method for threading the wrapper automatically and reliably with a wrapping device from the wrapper roll to the nip between the wrapper proportioning drawing rolls.

The invention is based on that a prepared roll positioned ready for use is rotated against the feeding direction, whereupon the free wrapper end arrives on the

wrapper feeding table and can be indicated. When the wrapper end has been detected, the direction of rotation of the wrapper roll is changed and the wrapper is advantageously fed by blowing air to the nip between the drawing rolls and the nip is closed.

More precisely, the method in accordance with the present invention is characterized in what is presented in the characterizing part of claim 1.

The arrangement in accordace with the present invention is, for its part, characterized in what is presented in the characterizing part of claim 6.

Considerable advantages are achieved by means of the present invention.

The most significant advantage of the invention is that the end of the wrapper can be threaded to the drawing roll nip automatically and very reliably. The wrapper doesn't need to be threaded by hand at any stage and the wrapper is always guided by the machine straight forward, whereupon the wrapper arrives straight to the drawing roll nip and its transverse tension will become uniform when the drawing roll nip is closed. Thanks to the automatic and reliable guiding the number of possibilities for errors in connection with the changing of wrapper rolls will decrease, by which the quality and reliability of the functioning of the entire wrapping system can be influenced. This makes the work of the wrapping machine operators easier, enabling them to concentrate on the matters that are the most essential ones for the functioning of the system and on the quality control of the rolls that are to be wrapped.

In the following, the invention will be described in more detail with reference to the figures in the accompanying drawing.

Figure 1 is an illustration of a device in accordance with the invention seen from above.

Figure 2 is an illustration of a device in accordance with Figure 1 seen from the side.

Figures 3a - 3c are schematic illustrations of threading of the wrapper end in accordance with the invention.

In Figs. 1 and 2 there are shown members for feeding a wrapper from a wrapper roll to wrapper handling members of a wrapping machine. These devices are positioned in connection with wrapping devices, which roll the wrapper around a roll that is to be wrapped. The wrapping device and its support rolls are shown referentially. The rolls that are to be wrapped are brought on a conveyor to a wrapping station and a roll is placed on the support rolls by changing the height between the conveyor and the support rolls, after which the roll is rotated on the support rolls and the wrapper is wrapped around the roll.

With respect to the support rolls, on the opposite side of the wrapping station there is a storage table 1 for storing wrapper rolls 2 of various sizes. In this embodiment there is one pick-up station 26 on the storage table and on both sides of it delivery stations 27. At each station is shown a roll 2, 25. The wrapping station is set up on a frame structure 6 and wrapper proportioners, i.e. a wrapper carriage and a roll in use 3, have been positioned on their one side on rails 7 which are parallel to the roll that is to be wrapped and on their other side on an electric motor -driven drive gear 8. The position of the wrapper feeding devices is controlled by an absolute sensor, which is placed on the drive gear shaft. This wrapper roll handling device is intended for the kind of wrapping station applications in which the roll that is to be wrapped can be wrapped in several parallel rounds of wrapper using a wrapper that is narrower than the roll that is to be wrapped. In this kind of device it has to be possible to move the wrapper feeding device in line with the longitudinal axis of the roll that is to be wrapped, in the way that is shown with arrows in Fig.1.

The wrapper proportioners comprise swinging arms 9 for supporting the wrapper material roll 3, below the roll 3 the first part 10 of a wrapper feeding table, in connection with which there are placed conventional drawing rolls 11, 15 for feeding the wrapper and a cross cutting device 5 for cutting the wrapper. The first part 10 of the wrapper feeding table inclines down and at its bottom end after the cross cutting device 5 there is the second part of the feeding table, which continues to the support roll that is on the side of the wrapping station. In the first part 10 of the wrapper

feeding table there are air nozzles 28 for forming a stream of air along the surface of the table 10 downwards and sensors 29 for detecting the wrapper end. After the drawing rolls 11, 15 there is also a sensor 30 for indicating the wrapper end.

The wrapper is fed from the first part 10 of the wrapper feeding table along the second part to the roll that is to be wrapped. The drawing rolls 11, 15 have been placed in such way that the upper edge of the roll 11, which is under the first part 10 of the wrapper feeding table, is approximately on the same level as the table 10 and the roll 15, which is above the table, has been placed to press against the roll 11 below, guided by a cylinder 12. With the cylinder 12 a sufficient pressure is achieved between the rolls 11, 15 for drawing the wrapper and by means of it the nip between the rolls 11, 15 can be opened while the wrapper end is being threaded. The drawing rolls are driven by a motor 21 and the cross cutting device is driven by a motor 22.

The swinging arms 9 have been arranged to swing supported by end plates 13 towards the storage table around a shaft 17. A toothed segment 18 and an electric gear motor 16 equipped with a toothed wheel, which function in connection with each other, have also been attached to the end plate 13. At the opposite end, with respect to the end plate of the other swinging arm 9, there is an electric gear motor 4 for rotating the wrapper roll 3. On the shaft of the gear motor 4 there is a spindle 19, the end of which is conical-shaped. At the end of the opposite arm there is a freely rotating similarly shaped spindle 23. In the centre of the spindle 19, which is attached to the gear motor 4, there is a mirror 20 and in the centre of the freely rotating spindle 23 there is a photo cell 24. The spindle arms 9 have been fastened to the end plates 13 through rails 14 in such way that the arms can move regarding the wrapper roll 2.

Collecting a new wrapper roll 2 happens with the device described above as follows. When the wrapper roll 3 used at the wrapping station is finished or when there is too little wrapper left on the roll for a complete wrapping, the old roll or the roll core has to be removed. After this, a new roll is collected. When the old wrapper roll 3 has been removed, the swinging spindle arms 9 are driven to the open-position on the rails 14 and the wrapper carriage is moved to the pick-up station 26 of the new roll 2.

The detectors placed in the carriage indicate the exact place of the roll 2 and that there are no extra rolls in the pick-up area. Next, the spindle arms 9 are turned towards the wrapper roll 2 that is to be collected. The wrapper roll 2 has to be positioned in such way that its centre hole is on the path of the swinging spindle arms 9. The centre hole has to be so precisely on the path of the spindles 19, 23 that their conical sections can be pushed into the centre hole. The spindles have the photo cell - mirror pair 20, 24, which gives a signal when the spindles 19, 23 arrive at the centre hole. Therefore, using this method, the centre hole of the roll has to be free and non-plugged so it can be detected. If the centre hole can't be found, an error message will be given. The spindle arms 9 are now driven on the rails 14 towards the roll 2 and the absolute sensor indicating their movement measures the distance of the spindle arms 9 from the end of the roll 2. When the reading of the absolute sensor indicates that the conical sections of the spindle arms are at least partially in the centre hole, the brake holding the swinging spindle arms 9 in place in the swinging direction and the brakes affecting the sideways position of the spindle arms are released, whereupon the spindle arms 9 and the spindles 19, 23 position themselves freely with respect to the centre hole. When the distance detector indicates that the spindle arms are attached to the ends of the roll, the roll can be lifted up to its use station.

If a change of the width or of the quality of the wrapper is desired, the wrapper roll in use has to be lowered away from the use station and a new roll has to be collected to replace it. The changing is done in such way that at first, the wrapper part that is on the feeding table 10 is rolled back aroud the roll. Then the wrapper carriage is driven to the changing position 27 that has been defined in beforehand and the sensors are used to check whether the area is free. If the changing area is free, the partly used roll is lowered to the changing position. The swinging arms can now be moved to the open-position by moving them away from the roll. Then the spindle arms are lifted and the wrapper carriage is guided to the pick-up station of the new roll. Collecting the new roll happens as described above.

According to the present invention, the wrapper end 31 is threaded to the nip between the drawing rolls 11, 15 in the way that is shown in Figs. 3a - 3c. The roll 3, which has been collected to the use station as described above, has been prepared,

i.e. its pacsupport has been removed and the wrapper end 31 has been released and cut in the specified shape. When the wrapper roll 3 has been lifted to the use station, the end 31 hangs down from the roll 3 as shown in Fig. 3a on the opposite side of the wrapper roll 3 with respect to the wrapper feeding table 10. Now, the roll 3 is rotated according to the arrows in Fig. 3a agaist the wrapper feeding direction, whereupon the wrapper end 31 goes round the roll 3 and falls on the wrapper feeding desk 10 as shown in Fig. 3b. At the same time as the roll is being rotated air is blown from the air nozzles 28 along the surface of the feeding table 10 and the stream of air moving on the surface of the table sucks the wrapper end 31 against the table. Thus the wrapper end 31 is detected by the sensor 29 and the wrapper roll 3 is stopped and its direction of rotation is changed to the direction of rotation of the wrapper in accordance with the arrow in Fig. 3c. Now the rotating motion of the roll 3 feeds the wrapper along the feeding table 10 and the air blown from the air nozzles 28 feeds the wrapper forward and keeps the wrapper on the surface of the table 10 and straight. When the wrapper end passes the drawing rolls 11, 15, it is detected by the sensor 30 and the nip between the drawing rolls 11, 15, which has been open, can be closed. The wrapper has now been threaded in its place and the wrapping station is ready for operation.

It is understood that the present invention is also suitable for other types of wrapping stations besides the one described above. The method is suitable e.g. for the kind of wrapping stations that have several stations for wrapper rolls. The types and positions of the sensors and air nozzles in the wrapper feeding table can vary according to the structure of the wrapping station that is used. Air doesn't have to be blown continually during the reverse rotating motion of the wrapper roll, but if the blowing is started before the wrapper end comes to the wrapper feeding table, it is more certain that it will be detected. It is also conceivable that with some wrapper qualities the air blowing is not used at all, but in that case the wrapper has to be slack enough to fall straight on the wrapper feeding table and yet stiff longitudinally so it can be fed by the rotating motion of the roll.

Claims

1. A method of threading a wrapper end (31) from a wrapper roll (3) to a nip between wrapper proportioning drawing rolls (11, 15) in a wrapping station intended for wrapping paper rolls, board rolls and pulp rolls, **characterized** of

- rotating a prepared wrapper roll (3) in a use position against the wrapper feeding direction in such a way that the wrapper end (31) falls on a wrapper feeding table (10),

- indicating the wrapper end (31) that has fallen on the wrapper feeding table (10) and stopping the rotating motion of the wrapper roll when the wrapper end (31) has been detected, and

- rotating the roll (3) in the feeding direction of the wrapper, until the wrapper end (31) passes an indicator placed after the drawing rolls.

2. A method as claimed in claim 1, **characterized** of blown air along the surface of the wrapper feeding table (10) for attaching the wrapper end (31) and for guiding it along the surface of the wrapper feeding table (10).

3. A method as claimed in claim 2, **characterized** in that the air blowing is started before the wrapper end (31) is indicated on the wrapper feeding table (10).

4. An arrangement for threading a wrapper end in a wrapping device intended for wrapping paper rolls, board rolls and pulp rolls, comprising

- at least one use position, in which a prepared wrapper roll (3) can be placed for feeding the wrapper by wrapper feeding means (11, 15) to a roll that is to be wrapped,

- a wrapper feeding table (10), and

- means (4, 19, 23) for rotating the roll in the wrapper feeding direction and in a direction opposite to the feeding direction,

characterized of

- at least one first sensor (28) for indicating the wrapper end (31) that arrives on the wrapper feeding table,

- at least one air nozzle for blowing air along the wrapper feeding table (10) for attaching the wrapper end to the table and for guiding it forward on the table, and

- at least one second sensor (30) for indicating the wrapper end that has passed the wrapper feeding members (11, 15).

5. An arrangement as claimed in claim 4, **characterized** in that the air nozzles (28) have been arranged in the table and there are several of them.

(57) Abstract

Method of and arrangement for threading of a wrapper end (31) from a wrapper roll (3) to a nip between wrapper proportioning drawing rolls (11, 15) in a wrapping station for wrapping paper rolls, board rolls and pulp rolls, in which the prepared wrapper roll (3) is rotated in a use station in the direction opposite to the wrapper feeding direction in such way that the wrapper end (31) falls on a wrapper feeding table (10). The wrapper end (31) that has fallen on the wrapper feeding table (10) is indicated and the rotating motion or the wrapper roll is stopped when the wrapper end (31) has been detected. Now the roll (3) is rotated in the wrapper feeding direction, until the wrapper end (31) passes an indicator placed after the drawing rolls.

Fig. 2

FIG. 1

FIG. 2

FIG. 3a

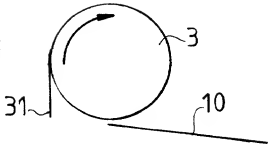


FIG. 3b

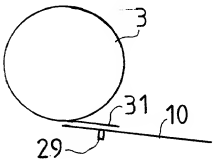
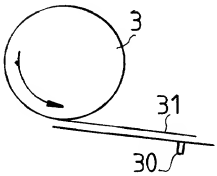


FIG. 3c



COMBINED DECLARATION FOR PATENT APPLICATION AND POWER OF ATTORNEY
Includes Reference to PCT International Applications

Attorney's Docket No.

As a below named inventor, I hereby declare that:

My residence, post office address and citizenship are as stated below next to my name.

I believe I am the original, first and sole inventor (if only one name is listed below) or an original, first and joint inventor (if plural names are listed below) of the subject matter which is claimed and for which a patent is sought on the invention entitled: Method of and arrangement for threading of a wrapper web into a nip between drawing rolls in a wrapping device

the specification of which (check only one item below)

[] is attached hereto

[] was filed as United States application

Serial No. _____

on _____

and was amended

on _____ (if applicable).

[X] was filed as PCT international application

Number PCT/FI99/00281

on April 1, 1999

and was amended under PCT Article 19

on _____ (if applicable).

I hereby state that I have reviewed and understand the contents of the above-identified specification, including the claims, as amended by any amendment referred to above.

I acknowledge the duty to disclose information which is material to the patentability of the application in accordance with Title 37, Code of Federal Regulations, §1.56(a).

I hereby claim foreign priority benefits under Title 35, United States Code, §119 of any foreign application(s) for patent or inventor's certificate or of any PCT international application(s) designating at least one country other than the United States of America listed below and have also identified below any foreign application(s) for patent or inventor's certificate or any PCT international application(s) designating at least one country other than the United States of America filed by me on the same subject matter having a filing date before that of the application(s) of which priority is claimed.

PRIOR FOREIGN/PCT APPLICATIONS AND ANY PRIORITY CLAIMS UNDER 35 U.S.C. 119:

Country (if PCT, indicate "PCT")	Application Number	Date of Filing (day, month, year)	Priority Claimed Under 35 U.S.C. 119	
Finland	980751	01 April 1998	[X] YES	[ ] NO
PCT	PCT/FI99/00281	01 April 1999	[X] YES	[ ] NO
			[ ] YES	[ ] NO
			[ ] YES	[ ] NO
			[ ] YES	[ ] NO

Combined Declaration for Patent Application and Power of Attorney (Continued) (Includes Reference to PCT International Applications)				Attorney's Docket No.
203	FULL NAME OF INVENTOR	FAMILY NAME	FIRST GIVEN NAME	SECOND GIVEN NAME
	RESIDENCE & CITIZENSHIP	CITY	STATE OR FOREIGN COUNTRY	COUNTRY OF CITIZENSHIP
	POST OFFICE ADDRESS	POST OFFICE ADDRESS	CITY	STATE & ZIP CODE/COUNTRY
204	FULL NAME OF INVENTOR	FAMILY NAME	FIRST GIVEN NAME	SECOND GIVEN NAME
	RESIDENCE & CITIZENSHIP	CITY	STATE OR FOREIGN COUNTRY	COUNTRY OF CITIZENSHIP
	POST OFFICE ADDRESS	POST OFFICE ADDRESS	CITY	STATE & ZIP CODE/COUNTRY
205	FULL NAME OF INVENTOR	FAMILY NAME	FIRST GIVEN NAME	SECOND GIVEN NAME
	RESIDENCE & CITIZENSHIP	CITY	STATE OR FOREIGN COUNTRY	COUNTRY OF CITIZENSHIP
	POST OFFICE ADDRESS	POST OFFICE ADDRESS	CITY	STATE & ZIP CODE/COUNTRY
206	FULL NAME OF INVENTOR	FAMILY NAME	FIRST GIVEN NAME	SECOND GIVEN NAME
	RESIDENCE & CITIZENSHIP	CITY	STATE OR FOREIGN COUNTRY	COUNTRY OF CITIZENSHIP
	POST OFFICE ADDRESS	POST OFFICE ADDRESS	CITY	STATE & ZIP CODE/COUNTRY
207	FULL NAME OF INVENTOR	FAMILY NAME	FIRST GIVEN NAME	SECOND GIVEN NAME
	RESIDENCE & CITIZENSHIP	CITY	STATE OR FOREIGN COUNTRY	COUNTRY OF CITIZENSHIP
	POST OFFICE ADDRESS	POST OFFICE ADDRESS	CITY	STATE & ZIP CODE/COUNTRY
208	FULL NAME OF INVENTOR	FAMILY NAME	FIRST GIVEN NAME	SECOND GIVEN NAME
	RESIDENCE & CITIZENSHIP	CITY	STATE OR FOREIGN COUNTRY	COUNTRY OF CITIZENSHIP
	POST OFFICE ADDRESS	POST OFFICE ADDRESS	CITY	STATE & ZIP CODE/COUNTRY
209	FULL NAME OF INVENTOR	FAMILY NAME	FIRST GIVEN NAME	SECOND GIVEN NAME
	RESIDENCE & CITIZENSHIP	CITY	STATE OR FOREIGN COUNTRY	COUNTRY OF CITIZENSHIP
	POST OFFICE ADDRESS	POST OFFICE ADDRESS	CITY	STATE & ZIP CODE/COUNTRY

Combined Declaration for Patent Application and Power of Attorney (Continued) (Includes Reference to PCT International Applications)				Attorney's Docket No.
210	FULL NAME OF INVENTOR	FAMILY NAME	FIRST GIVEN NAME	SECOND GIVEN NAME
	RESIDENCE & CITIZENSHIP	CITY	STATE OR FOREIGN COUNTRY	COUNTRY OF CITIZENSHIP
	POST OFFICE ADDRESS	POST OFFICE ADDRESS	CITY	STATE & ZIP CODE/COUNTRY
211	FULL NAME OF INVENTOR	FAMILY NAME	FIRST GIVEN NAME	SECOND GIVEN NAME
	RESIDENCE & CITIZENSHIP	CITY	STATE OR FOREIGN COUNTRY	COUNTRY OF CITIZENSHIP
	POST OFFICE ADDRESS	POST OFFICE ADDRESS	CITY	STATE & ZIP CODE/COUNTRY
212	FULL NAME OF INVENTOR	FAMILY NAME	FIRST GIVEN NAME	SECOND GIVEN NAME
	RESIDENCE & CITIZENSHIP	CITY	STATE OR FOREIGN COUNTRY	COUNTRY OF CITIZENSHIP
	POST OFFICE ADDRESS	POST OFFICE ADDRESS	CITY	STATE & ZIP CODE/COUNTRY

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under §1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issuing thereon.

SIGNATURE OF INVENTOR 201	SIGNATURE OF INVENTOR 202	SIGNATURE OF INVENTOR 203
DATE 23 November 1999	DATE 23 November 1999	DATE
SIGNATURE OF INVENTOR 204	SIGNATURE OF INVENTOR 205	SIGNATURE OF INVENTOR 206
DATE	DATE	DATE
SIGNATURE OF INVENTOR 207	SIGNATURE OF INVENTOR 208	SIGNATURE OF INVENTOR 209
DATE	DATE	DATE
SIGNATURE OF INVENTOR 210	SIGNATURE OF INVENTOR 211	SIGNATURE OF INVENTOR 212
DATE	DATE	DATE

COMBINED DECLARATION FOR PATENT APPLICATION AND POWER OF ATTORNEY (Continued)
Includes Reference to PCT International Applications

Attorney's Docket No.

I hereby claim the benefit under Title 35, United States Code, §120 of any United States application(s) or PCT international application(s) designating the United States of America that is/are listed below and, insofar as the subject matter of each of the claims of this application is not disclosed in that/those prior application(s) in the manner provided by the first paragraph of Title 35, United States Code, §112, I acknowledge the duty to disclose material information as defined in Title 37, Code of Federal Regulations, §1.56(a) which occurred between the filing date of the prior application(s) and the national or PCT international filing date of this application:

PRIOR U.S. APPLICATIONS OR PCT INTERNATIONAL APPLICATIONS DESIGNATING THE U.S. FOR BENEFIT UNDER 35 U.S.C. 120:

U.S. APPLICATIONS		STATUS *(check one)*		
U.S. APPLICATION NUMBER	U.S. FILING DATE	PATENTED	PENDING	ABANDONED

PCT APPLICATIONS DESIGNATING THE U.S.					
PCT APPLICATION NO.	PCT FILING DATE	U.S. SERIAL NUMBERS ASSIGNED *(if any)*			
PCT/FI99/00281	01 April 1999				

POWER OF ATTORNEY: As a named inventor, I hereby appoint the following attorney(s) and/or agent(s) to prosecute this application and transact all business in the Patent and Trademark Office connected therewith (*List name and registration number*)

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201	FULL NAME OF INVENTOR	FAMILY NAME FORSSTRÖM	FIRST GIVEN NAME Risto	SECOND GIVEN NAME
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202	FULL NAME OF INVENTOR	FAMILY NAME MIELONEN	FIRST GIVEN NAME Eero	SECOND GIVEN NAME
	RESIDENCE & CITIZENSHIP	CITY Lahti FIX	STATE OR FOREIGN COUNTRY Finland	COUNTRY OF CITIZENSHIP Finland
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